

ATLAS Forward Proton Detectors

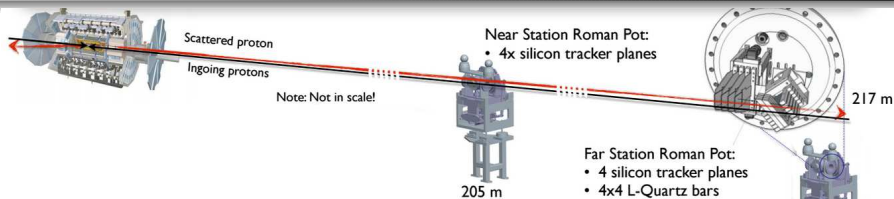
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on behalf of the AFP Collaboration

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Polish Academy of Sciences



121st SPS and LHC Machine Protection Panel Meeting

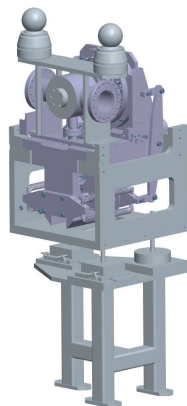
CERN, 19th February 2016



AFP TDR: CERN-LHCC-2015-009, ATLAS-TDR-024

Setup: 2 horizontal **Roman Pot stations** at 205 and 217 m in A6R1:

- based on the CMS-PPS/TOTEM horizontal stations
- installed 18th Jan.; under vacuum and baked-out since 3 Feb.
- motor motion calibrated, limit switches (HOME, IN, OUT) set, LVDT calibrated on 18 Feb. (see backup slides)
- interlock logic (copy of ATLAS-ALFA logic) installed and ready for validation tests and commissioning (see backup slides)



Ultimate Goal: measure forward protons with AFP detectors for the study of diffractive processes with ATLAS

Commissioning:

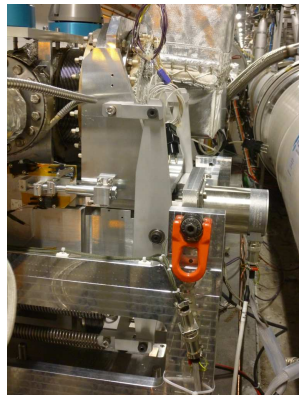
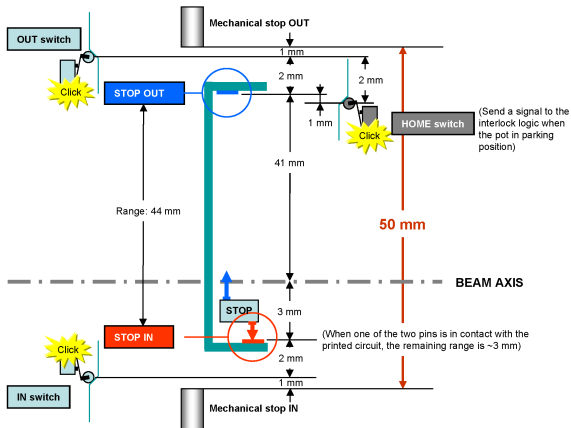
- commissioning of interlocks and Roman pot insertion during no-beam periods
- parasitic stand-alone running (in garage position) for detector commissioning (NO pot insertion)
- **time period: March-May 2016**

Data taking:

- **after commissioning:**
 - participate parasitically in low- μ runs
 - stand-alone data taking with tentative insertion up to 20σ
 - **time period: May-June 2016**
- **after LHC and ATLAS approvals:**
 - participate parasitically in a few end-of-store runs (standard optics)
 - stand-alone data taking with tentative insertion up to 20σ
 - **time period: before September 2016**
- **after ATLAS review and approvals:**
 - participate in a number of standard runs with ATLAS+AFP TDAQ with tentative insertion up to 20σ
 - **time period: before mid-November 2016**

Thank you!

„Specification and Validation of the Motion Control System of the ATLAS Forward Proton Roman Pots”, document in preparation



AFP RP Interlock Diagram 2016

